

Remarks

This amendment responds to the official action mailed August 4, 2009 and is accompanied by a petition for extension under 37 C.F.R. §1.136(a) and the required extension fee.

In the official action, claim 1 was rejected as anticipated by US 5,882,100 – Röck under 35 U.S.C. §102. Claim 1 has now been amended to incorporate the subject matter of original claims 1-3, thereby overcoming the rejection under Section 102. Claims 2-8 were rejected under 35 U.S.C. §103 over a combination of Röck and US 2,873,150 – Hutzelman; claims 9 and 10 over a combination of Röck and FR 2,441,086; and claims 11 and 12 over a combination of Röck and US 2005/0066457 – McKay.

Reconsideration is requested in view of this amendment. The prior art references cited against the claims, even if combined, would not meet the invention claimed as a whole. There is no logical articulation of record to explain how a person of ordinary skill might perceive a likely benefit in extracting and modifying selected aspects of the prior art references. The differences between the invention and the prior art are such that the subject matter claimed as a whole cannot be regarded as obvious to a person of ordinary skill.

The invention concerns a drawer guide rail arrangement with three rails supporting one another on rollers. A pull-out rail is attachable to a drawer. A carcass rail is attachable to a stationary cabinet carcass. A central rail is disposed between the carcass rail and the pull-out rail. The central rail enables the drawer to be supported for sliding more fully out of the carcass than would be possible with only two rails.

When the drawer is fully retracted into the carcass, the three rails are coextensive (overlapping). When the drawer is pulled fully from the carcass, the pull-out rail overlaps the outside part of the central rail by a certain length. The inside part of the central rail overlaps the stationary carcass rail by approximately the same length. Rollers residing in the overlapping lengths carry the load of the drawer via

the pull-out rail onto the central rail, and via the central rail to the carcass rail and onto the cabinet carcass.

It is desirable that the respective rails move smoothly from their fully retracted position to the extended position in which the central rail partly overlaps each of the carcass rail and the pull-out rail. An object of the invention is to cause the displacement of the drawer from its fully retracted position into its fully extended position, smoothly to move the central rail into position. The central rail is advanced relative to the carcass, but lags behind the drawer.

According to the invention, a particular control roller structure is provided on the central rail. The control roller maintains frictional engagement between a control roller on the central rail, and both of the carcass rail and the pull-out rail, while bearing loading force. The carcass rail and the pull-out rail contact opposite sides of the control roller. As a result, the control wheel moves the central rail to overlap the carcass rail and the pull-out rail by equal lengths as the drawer is pulled out.

The background part of the application mentions that it is known to provide control wheels that serve both to support the rails on one another and also to distribute the displacement of the central rail between the pull-out rail and the stationary carcass rail. Examples given include gearwheels that are rotatably mounted on the central rail and mesh on opposite sides with toothed racks on the respective carcass and drawer rails. The gearwheels function as supporting rollers and also as gears to distribute the relative displacement of the rails as desired.

An alternative arrangement mentioned is to mount friction wheels on the central rail (instead of gearwheels). Friction wheels must be resilient and dimensioned slightly larger than the space between the respective carcass and drawer rails. In this way the friction wheels are compressed to obtain the necessary friction. Compression results in part because the weight of the drawer and its contents bear down on the control roller via the pull-out drawer rail, and the control roller in turn bears down on the carcass rail, producing force on opposite sides of the control wheel.

One would attempt to design a friction wheel to fit precisely and to provide some degree nominal compression and corresponding friction. But friction wheels might be relatively harder or softer, tightly or loosely fit, and more or less worn. These attributes as well as variations in the weight in the drawer vary the operational effectiveness of the friction wheel. As a result, the drawer pulling attributes may lack a smooth action. The drawer may be tight. Displacement of the central rail relative to the carcass and pull-out rails can become unequal. Withdrawing and retracting the drawer may make noise. The prior art has not provided an arrangement that is optimized for supporting the rails, metering their relative displacement and doing so smoothly and without undue noise.

Applicant's claimed invention seeks to improve on the concept of a carcass rail, a pull-out rail, a central rail, and a control roller mounted rotatably about an axis on the central rail. Applicant's improvements include structuring the control roller to have a bearing part including a hard body and a soft body, wherein the soft body at least in part projects in a radial direction relative to the hard body, and the soft body extends over only part of an axial extent of the hard body.

With applicant's improved structure, the hard body that encompasses part of the axial length of the roller is available to support weight. If loading is such that the soft body becomes compressed radially, the soft body occupies a limited axial length on the hard body, allowing the hard body to bear the loading when the soft body is sufficiently compressed. Furthermore, the soft body ensures that the control roller is in frictional engagement with both of the pull-out (drawer) rail and the carcass (stationary) rail. Such an arrangement for a pull-out/central/carcass rail is particularly claimed and is not found in the prior art of record.

In US 5,882,100 – Röck, the control roller is element 11 and an additional cantilever roller 16 is provided on the outer end of the central rail. The control roller 11, as shown for example in Fig. 5, is a cylindrical homogeneous roller on a spindle. The roller might be hard and load bearing or soft and frictional. But whichever it is, the roller suffers from the problems discussed with respect to the background prior art. Unlike applicant's claimed invention, there is no disclosure or suggestion in Röck

of how one might achieve the benefits of load bearing and frictional engagement at the same time.

Applicant's control roller comprises a bearing part including a hard body and a soft body, wherein the soft body at least in part projects in a radial direction relative to the hard body, and the soft body extends over only part of an axial extent of the hard body. The claimed invention is not disclosed by Röck and there is no logical explanation of how a person of ordinary skill would routinely and obviously modify Röck to meet the subject matter claimed.

Among the references of record that are not relied upon, US 4,737,039 – Sekerich discloses a drawer arrangement with a control roller. The control roller comprises a metal (hard) hub 52 on a plastic axle and a rubber (soft) roller in the form of tire 50, carried on the metal bushing. This structure, like Röck, fails to teach or suggest providing a control roller for a drawer arrangement as claimed, wherein the control roller has a compressible part for achieving frictional contact that projects radial relative to a hard body, achieving frictional contact on both opposite sides of a control roller, and extends axially only over part of the axial length of the hard body so that the hard body bears drawer loading pressure.

With respect original claims 2-8, Röck was cited in combination with US 2,873,150 – Hutzelman. The person of ordinary skill could not routinely obtain applicant's claimed invention from a combination of Hutzelman and Röck. In Hutzelman, there is no control roller provided on a central rail to control a pull-out and retraction action based on frictional engagement on opposite sides of a control roller with respective carcass and pull-out rails. Hutzelman's rollers are simply load bearing rollers. The forces applied vertically downwardly may compress the ring 28 on one radial side of the roller, but as seen for example in Fig. 4 where there is a gap between the ring 28 on the roller 18 and the upper flange 13, there is no contact between any similar ring and any part on an opposite side of the roller.

Moreover, Hutzelman's arrangement, wherein the flange 13 and its lower counterpart flange are integral with one another and relatively fixed, would preclude any consideration of making the ring engage frictionally with surfaces on opposite

sides of the roller as in the claimed invention. In Hutzelman, that would cause one or both sides to slip and drag. Thus, there is no reason apparent from the prior art, and without the improper application of hindsight, to assert that it would be obvious to use a limited ring as in Hutzelman to achieve frictional contact on both opposite sides of a roller at the same time.

In the official action, it is asserted that it would be obvious to replace the Röck roller with Hutzelman's roller in order to reduce slippage between the bearing part (the roller) and the carcass and pull-out rails *because substituting one bearing part for another would have been predictable*. Reconsideration is requested. The test of obviousness after *KSR v. Teleflex* is not whether the substitution of one part for another would be a predictable substitution of parts, which is test that sidesteps the issue at hand. The proper test is whether the person of ordinary skill would believe it probable that a beneficial result would be achieved by making a substitution of one part for another. "A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions." *KSR*, Slip. Op. at p.4.

In the present case, Hutzelman does not show that a soft ring on a roller has the established function of making frictional engagement between oppositely translating rails on radially opposite sides of a roller. Neither Hutzelman nor Röck, nor any articulated reasoning in the official action, provides a basis to assert that the person of ordinary skill would perceive a likely beneficial result, in drawer mechanism that is distinctly different from Hutzelman's drawer mechanism and has the aspect of oppositely moving carcass and pull-out rails on opposite sides of a control roller.

Applicant's new and beneficial result is to establish frictional engagement on the opposite side of the roller from the side where Hutzelman exploits the compressibility of the ring and the hardness of the roller wheel. Applicant's unobvious benefits arise on the side of the roller that is opposite from the side where Hutzelman's loading is taken up against the hard part of the roller because the soft ring has been flattened. An explanation of how a person of ordinary skill could possibly perceive the benefit of frictional engagement on an opposite side of such a

roller, in a mechanism that is structurally and functionally distinct, is not apparent. No articulation of such an explanation is found in the official action. Therefore, the rejection under Section 103 is insufficient under the *KSR v. Teleflex* and its interpretation of *Graham v. John Deere*. Applicant requests that the rejection of claim 1 as amended, and also claims 4-12, which depend thereon, be reconsidered and withdrawn.

Claims 4-12 are allowable due to their dependence on claim 1 as amended to incorporate the subject matter of claims 2 and 3. A number of the dependent claims also are allowable for independent reasons.

Claims 9 and 10 were rejected over a combination of Röck and FR 2,441,086. The examiner asserts that FR 2,441,086 teaches a spindle having a cross section that is non-circular, and is larger in the pull-out direction, referring to spindle 8 and a cross section through part 16. However part 16 in the reference is not the spindle on which the roller is mounted. The spindle 8 is circular in cross section. The bushing 11 and the race for bearings 13 are circular. The contact rim 15 of the roller is also circular. There is no teaching or suggestion of the aspects defined in the claims. Applicant requests reconsideration and allowance of these claims.

Claims 11 and 12 were rejected over a combination of Röck and elements found in a rotatable-head hairbrush, disclosed in US 2005/0066457 - McKay. McKay's hairbrush teaches the person of ordinary skill nothing about pull-out drawer mechanisms with telescoping rails arranged to permit a drawer to be fully pulled out from a cabinet. Even if it is possible to extract from McKay plastic snap-together features, the official action lacks a logical articulation of how a person of ordinary skill in the art of hairbrushes and pull-out drawers would find it probable that a beneficial result might be achieved by replacing a drawer mechanism with something from a hairbrush. Reconsideration and allowance of claims 11 and 12 are requested both on their own account and for their dependence on claim 1 as amended.

The claims have been amended to particularly define and distinguish the invention over the prior art cited. Applicant has explained how the official action is erroneous in the assertion that the combinations of selected features would reach the

invention claimed as a whole, and/or why the assertions in the official action do not amount to a prima facie finding of obviousness. The differences between the invention and the prior art are such that the subject matter claimed as a whole is not shown to have been known or obvious. Applicant requests reconsideration and allowance of the claims.

Respectfully submitted,

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